

# STIC Search Report

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**TO:** Mark Clardy  
**Location:** CM1/2D11/2D19  
**Art Unit:** 1616  
**Tuesday, June 10, 2003**  
**Case Serial Number:** 890086

**From:** Paul Schulwitz  
**Location:** Biotech-Chem Library  
**CM1-6B06**  
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### Search Notes

Examiner Clardy,

See attached results.

If you have any questions about this search feel free to contact me at any time.

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Paul Schulwitz  
Technical Information Specialist  
STIC Biotech/Chem Library  
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96024

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## SEARCH REQUEST FORM

Scientific and Technical Information Center

Requester's Full Name: Mark Clardy Examiner #: 69462 Date: 6/6/2003  
 Art Unit: 1616 Phone Number 303-455-50 Serial Number: 09/890,086  
 Mail Box and Bldg/Room Location: CMI - 2018 Results Format Preferred (circle): PAPER DISK E-MAIL

If more than one search is submitted, please prioritize searches in order of need.

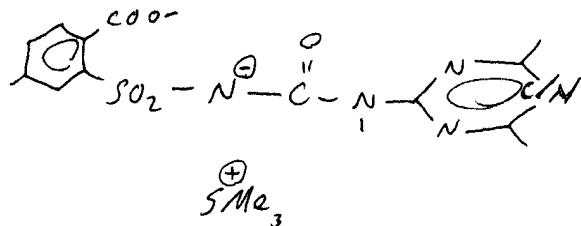
Please provide a detailed statement of the search topic, and describe as specifically as possible the subject matter to be searched. Include the elected species or structures, keywords, synonyms, acronyms, and registry numbers; and combine with the concept or utility of the invention. Define any terms that may have a special meaning. Give examples or relevant citations, authors, etc, if known. Please attach a copy of the cover sheet, pertinent claims, and abstract.

Title of Invention: \_\_\_\_\_

Inventors (please provide full names): \_\_\_\_\_  
 \_\_\_\_\_ } attached

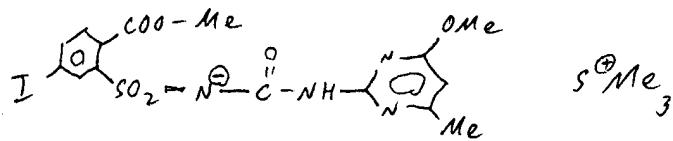
Earliest Priority Filing Date: \_\_\_\_\_

\*For Sequence Searches Only\* Please include all pertinent information (parent, child, divisional, or issued patent numbers) along with the appropriate serial number.



Tertiary sulfonium salts of sulfonylurea herbicides.

Elected Species: Iodosulfuron-methyl, trimethylsulfonium salt;



Claims, B.b Data attached

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## STAFF USE ONLY

## Type of Search

## Vendors and cost where applicable

Searcher: \_\_\_\_\_

NA Sequence (#) \_\_\_\_\_

STN 538.69

Searcher Phone #: \_\_\_\_\_

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Searcher Location: \_\_\_\_\_

Structure (#) 631

Questel/Orbit \_\_\_\_\_

Date Searcher Picked Up: 6/10

Bibliographic \_\_\_\_\_

Dr.Link \_\_\_\_\_

Date Completed: 6/10

Litigation \_\_\_\_\_

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Searcher Prep & Review Time: 30

Fulltext \_\_\_\_\_

Sequence Systems \_\_\_\_\_

Clerical Prep Time: \_\_\_\_\_

Patent Family \_\_\_\_\_

WWW/Internet \_\_\_\_\_

Online Time: 20

Other \_\_\_\_\_

Other (specify) \_\_\_\_\_



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Bib Data Sheet

CONFIRMATION NO. 6212

SERIAL NUMBER 09/890,086	FILING DATE 11/26/2001 RULE	CLASS 504	GROUP ART UNIT 1616	ATTORNEY DOCKET NO. 514413-3884
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## \*\* CONTINUING DATA \*\*\*\*\*

THIS APPLICATION IS A 371 OF PCT/EP00/00469 01/22/2000

## \*\* FOREIGN APPLICATIONS \*\*\*\*\*

Foreign Priority claimed <input checked="" type="checkbox"/> yes <input type="checkbox"/> no	STATE OR COUNTRY GERMANY	SHEETS DRAWING	TOTAL CLAIMS 18	INDEPENDENT CLAIMS 2
35 USC 119 (a-d) conditions met <input checked="" type="checkbox"/> yes <input type="checkbox"/> no <input type="checkbox"/> Met after allowance				
Verified and Acknowledged <i>[Signature]</i> Examiner's Signature Initials				

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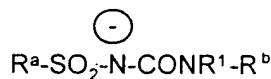
## TITLE

Formulation of herbicides and plant growth regulators

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## Patent claims:

1. A formulation, comprising
  - a) at least one phosphonium or sulfonium salt of a sulfonylurea,  
5 where the phosphonium and sulfonium cation of the salt has at least one substituent which is different from hydrogen, and
  - b) customary auxiliaries and additives.
2. A formulation according to claim 1, comprising at least one  
10 quaternary phosphonium salt or at least one tertiary sulfonium salt of a sulfonylurea.
3. A formulation according to claim 1 or 2, comprising at least one  
15 sulfonylurea salt of the formula (Ia)

M  $\textcircled{+}$ 

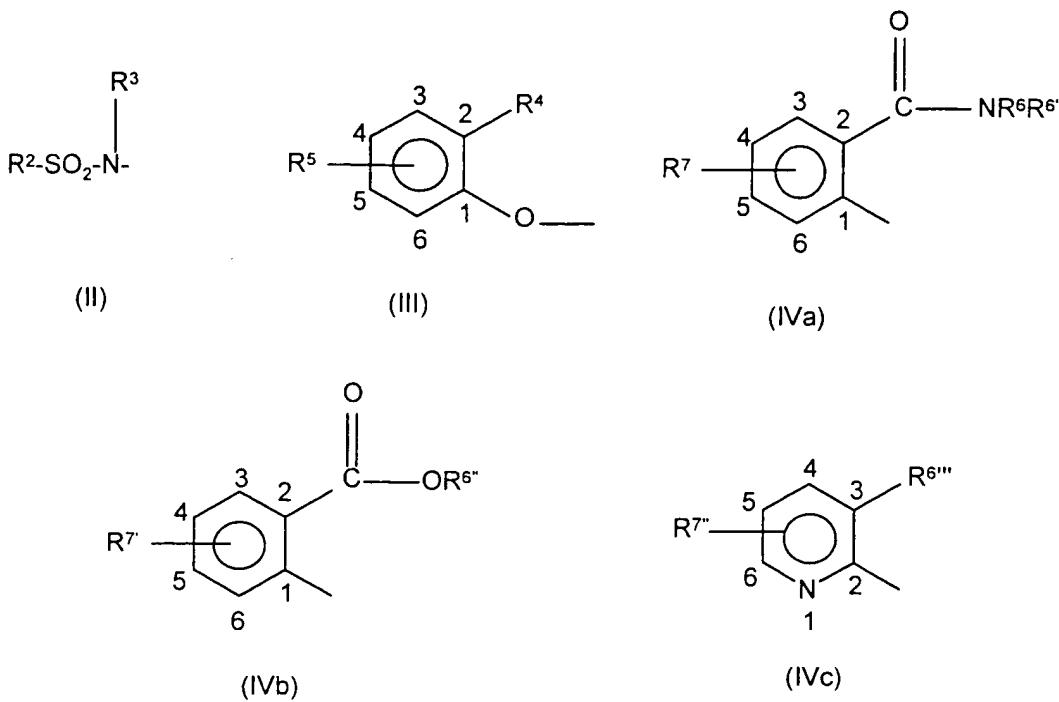
(Ia)

in which R<sup>a</sup> is a substituted aliphatic, aromatic or heterocyclic radical or an electron-withdrawing group, such as a substituted sulfonamide radical;  
20

preferably

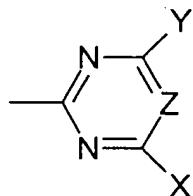
R<sup>a</sup> is a radical of the formula II-IVc,

25



5       $\text{R}^{\text{b}}$  is a heterocyclyl radical, preferably a nitrogen-containing heterocyclyl radical, particularly preferably a heterocyclyl radical having 2 or 3 nitrogen atoms in the ring, very particularly preferably a radical

10



in which

15       $\text{R}^1$  is H or a C<sub>1</sub>-C<sub>10</sub>-hydrocarbon radical, such as (C<sub>1</sub>-C<sub>6</sub>)-alkyl,

15

$\text{R}^2$  is a substituted or unsubstituted C<sub>1</sub>-C<sub>20</sub>-hydrocarbon radical, such as substituted or unsubstituted (C<sub>1</sub>-C<sub>6</sub>)-alkyl, substituted or unsubstituted (C<sub>2</sub>-C<sub>6</sub>)-alkenyl, substituted or unsubstituted (C<sub>2</sub>-C<sub>6</sub>)-alkynyl, substituted or unsubstituted (C<sub>3</sub>-C<sub>7</sub>)-cycloalkyl,

20

$\text{R}^3$  is a substituted or unsubstituted C<sub>1</sub>-C<sub>20</sub>-hydrocarbon radical, such as substituted or unsubstituted (C<sub>1</sub>-C<sub>6</sub>)-alkyl, substituted or

unsubstituted (C<sub>2</sub>-C<sub>6</sub>)-alkenyl, substituted or unsubstituted (C<sub>2</sub>-C<sub>6</sub>)-alkynyl, substituted or unsubstituted (C<sub>3</sub>-C<sub>7</sub>)-cycloalkyl,

5           R<sup>4</sup> is halogen, such as F, Cl, Br, I, or a substituted or  
unsubstituted C<sub>1</sub>-C<sub>20</sub>-hydrocarbon radical or C<sub>1</sub>-C<sub>20</sub>-  
hydrocarbonoxy radical, such as (C<sub>1</sub>-C<sub>6</sub>)-alkyl, (C<sub>2</sub>-C<sub>6</sub>)-alkenyl, (C<sub>2</sub>-  
C<sub>6</sub>)-alkynyl, (C<sub>1</sub>-C<sub>6</sub>)-alkoxy, (C<sub>3</sub>-C<sub>6</sub>)-alkenyloxy, (C<sub>3</sub>-C<sub>6</sub>)-alkynyloxy,  
where the 6 last-mentioned radicals may be substituted by one or  
more radicals, preferably from the group consisting of halogen, such  
10          as F, Cl, Br or I, and (C<sub>1</sub>-C<sub>3</sub>)-alkoxy,

15          R<sup>5</sup> is H, halogen, such as F, Cl, Br, I, or a substituted or  
unsubstituted C<sub>1</sub>-C<sub>20</sub>-hydrocarbon radical or C<sub>1</sub>-C<sub>20</sub>-  
hydrocarbonoxy radical, such as (C<sub>1</sub>-C<sub>6</sub>)-alkyl, which may be  
substituted by one or more radicals from the group consisting of  
halogen, such as F, Cl, Br or I, and (C<sub>1</sub>-C<sub>3</sub>)-alkoxy, or (C<sub>1</sub>-C<sub>5</sub>)-  
alkoxy which may be substituted by one or more radicals from the  
group consisting of halogen (F, Cl, Br, I) and (C<sub>1</sub>-C<sub>3</sub>)-alkoxy,

20          R<sup>6</sup> and R<sup>6'</sup> are identical or different and are H or a substituted or  
unsubstituted C<sub>1</sub>-C<sub>20</sub>-hydrocarbon radical, such as C<sub>1</sub>-C<sub>6</sub>-alkyl (for  
example Me, Et, <sup>n</sup>Pr, <sup>i</sup>Pr, <sup>c</sup>Pr), where R<sup>6</sup> and R<sup>6'</sup> may form an  
unsubstituted or substituted ring,

25          R<sup>7</sup> is H, halogen, such as F, Cl, Br or I, OH, NR<sup>X</sup>R<sup>Y</sup>, in which R<sup>X</sup>  
and R<sup>Y</sup> are H or (C<sub>1</sub>-C<sub>3</sub>)-alkyl, or R<sup>7</sup> is N-(C<sub>1</sub>-C<sub>3</sub>)-alkyl-N-acylamino  
or N-acylamino or a substituted or unsubstituted C<sub>1</sub>-C<sub>20</sub>-  
hydrocarbon radical or hydrocarbonoxy radical, such as (C<sub>1</sub>-C<sub>3</sub>)-  
alkyl, (C<sub>1</sub>-C<sub>3</sub>)-haloalkyl, halogen, (C<sub>1</sub>-C<sub>3</sub>)-alkyl-(N-(C<sub>1</sub>-C<sub>3</sub>)-alkyl-N-  
30          acylamino), (C<sub>1</sub>-C<sub>3</sub>)-alkyl-(N-acylamino) or (C<sub>1</sub>-C<sub>3</sub>)-alkoxy,

35          R<sup>6''</sup> is a substituted or unsubstituted C<sub>1</sub>-C<sub>20</sub>-hydrocarbon radical,  
such as substituted or unsubstituted (C<sub>1</sub>-C<sub>6</sub>)-alkyl, substituted or  
unsubstituted (C<sub>3</sub>-C<sub>6</sub>)-alkenyl, substituted or unsubstituted (C<sub>3</sub>-C<sub>6</sub>)-  
cycloalkyl, substituted or unsubstituted (C<sub>3</sub>-C<sub>7</sub>)-alkynyl, substituted or  
unsubstituted (C<sub>4</sub>-C<sub>8</sub>)-cycloalkylalkyl,

5             $R^{7'}$  is H, halogen, such as F, Cl, Br or I, OH,  $NR^xR^y$ , in which  $R^x$  and  $R^y$  are H or ( $C_1$ - $C_3$ )-alkyl, or  $R^{7'}$  is N-( $C_1$ - $C_3$ )-alkyl-N-acylamino, N-acylamino or a substituted or unsubstituted  $C_1$ - $C_{20}$ -hydrocarbon radical or  $C_1$ - $C_{20}$ -hydrocarboxy radical, such as ( $C_1$ - $C_3$ )-alkyl, ( $C_1$ - $C_3$ )-haloalkyl, ( $C_1$ - $C_3$ )-alkyl-(N-( $C_1$ - $C_3$ )-alkyl-N-acylamino), ( $C_1$ - $C_3$ )-alkyl-(N-acylamino) or ( $C_1$ - $C_3$ )-alkoxy,

10             $R^{6''}$  is halogen, such as F, Cl, Br or I, or a substituted or unsubstituted  $C_1$ - $C_{20}$ -hydrocarbon-containing radical, such as ( $C_1$ - $C_6$ )-alkyl, which may be substituted by one or more radicals from the group consisting of halogen (F, Cl, Br, I) and ( $C_1$ - $C_3$ )-alkoxy, ( $C_1$ - $C_6$ )-alkoxy which may be substituted by one or more radicals from the group consisting of halogen (F, Cl, Br, I) or ( $C_1$ - $C_3$ )-alkoxy, substituted or unsubstituted alkoxy carbonyl, substituted or unsubstituted dialkylaminocarbonyl, substituted or unsubstituted ( $C_1$ - $C_6$ )-alkylsulfonyl, ( $C_1$ - $C_6$ )-mono- or -dialkylamino, N-( $C_1$ - $C_6$ )-alkyl-N-acylamino or N-acylamino,

15             $R^{7''}$  is H, halogen, such as F, Cl, Br, I, OH,  $NR^xR^y$ , in which  $R^x$  and  $R^y$  are H or ( $C_1$ - $C_3$ )-alkyl, or  $R^{7''}$  is a substituted or unsubstituted  $C_1$ - $C_{20}$ -hydrocarbon radical or hydrocarboxy radical, such as ( $C_1$ - $C_6$ )-alkyl, ( $C_1$ - $C_6$ )-haloalkyl, ( $C_1$ - $C_6$ )-alkoxy or ( $C_1$ - $C_6$ )-haloalkoxy,

20             $M^+$  is a quaternary phosphonium ion or a tertiary sulfonium ion,

25            X is substituted or unsubstituted ( $C_1$ - $C_6$ )-alkyl, substituted or unsubstituted ( $C_1$ - $C_6$ )-alkoxy, halogen, such as F, Cl, Br or I, substituted or unsubstituted ( $C_1$ - $C_6$ )-mercaptoalkyl or ( $C_1$ - $C_3$ )-mono- or ( $C_1$ - $C_3$ )-dialkylamino,

30            Y is substituted or unsubstituted ( $C_1$ - $C_6$ )-alkyl, substituted or unsubstituted ( $C_1$ - $C_6$ )-alkoxy, halogen, such as F, Cl, Br or I, substituted or unsubstituted ( $C_1$ - $C_6$ )-mercaptoalkyl or ( $C_1$ - $C_3$ )-mono- or ( $C_1$ - $C_3$ )-dialkylamino, and

Z is C-halogen, such as CF, CCl, CBr or Cl, CH or N.

4. A formulation as claimed in one or more of claims 1 to 3, comprising one or more agrochemicals which are different from the sulfonylurea salt defined in claim 1, such as herbicides, fungicides, insecticides, growth regulators, safeners, fertilizers.  
5
5. A formulation as claimed in one or more of claims 1 to 4, comprising a wetting agent having bioactivating properties or a mixture of different wetting agents having bioactivating properties.  
10
6. A formulation as claimed in one or more of claims 1 to 5, comprising a pH-stabilizing substance or substance mixture.  
15
7. A formulation as claimed in one or more of claims 1 to 6, comprising a substance or a substance mixture having antifoam properties.  
20
8. A formulation as claimed in one or more of claims 1 to 7, comprising a substance or a substance mixture which acts as acid scavenger.  
25
9. A formulation as claimed in one or more of claims 1 to 8, comprising a substance or a substance mixture which acts as water scavenger.  
30
10. A formulation as claimed in one or more of claims 1 to 9, comprising a substance or a substance mixture which acts as crystallization inhibitor.  
35
11. A formulation according to one or more of claims 1 to 10, comprising a surfactant or surfactant mixture.  
30
12. A formulation as claimed in one or more of claims 1 to 11, comprising in general 00.1-70.0% by weight of one or more phosphonium or sulfonium salts of sulfonylureas, in general 5.0-95.0% by weight of a polar and/or hydrophobic solvent, in general 2.0-40.0% by weight of a mixture of anionic and nonionic surfactants or a mixture of cationic and nonionic surfactants.  
35

13. The use of the formulation as claimed in one or more of claims 1 to 12 as herbicidal or plant-growth-regulating composition.

14. A compound of the formula (Ia) as defined in claim 3.

5

15. A compound of the formula (Ia) as claimed in claim 14, in which

$R^1$  is H or Me,

10  $R^2$  is (C<sub>1</sub>-C<sub>3</sub>)-alkyl or (C<sub>1</sub>-C<sub>3</sub>)-haloalkyl, in particular Me and Et,

15  $R^3$  is (C<sub>1</sub>-C<sub>3</sub>)-alkyl or (C<sub>1</sub>-C<sub>3</sub>)-haloalkyl, in particular Me and Et,

20  $R^4$  is (C<sub>1</sub>-C<sub>6</sub>)-alkyl, (C<sub>1</sub>-C<sub>6</sub>)-haloalkyl or (C<sub>1</sub>-C<sub>6</sub>)-alkoxy, in particular Me, Et, OMe, OEt or CF<sub>3</sub>,

25  $R^5$  is H, halogen, such as F, Cl, Br or I, OMe, OEt, Me, CF<sub>3</sub>, where the radicals  $R^5$  in the formula (III) which are different from hydrogen are preferably located in the 5-position on the phenyl ring,

30  $R^6$  and  $R^{6'}$  are identical or different C<sub>1</sub>-C<sub>6</sub>-alkyl radicals, preferably  $R^6 = Me$ ,  $R^{6'} = Me$ ;  $R^6 = Me$ ,  $R^{6'} = Et$  and  $R^6 = Et$ ,  $R^{6'} = Et$ ,

35  $R^7$  is H, Me, Et, CF<sub>3</sub>, F, Cl, Br, I, N[(C<sub>1</sub>-C<sub>3</sub>)-alkyl]-R<sup>8</sup>, NH-R<sup>9</sup>, CH<sub>2</sub>N[(C<sub>1</sub>-C<sub>3</sub>)-alkyl]-R<sup>10</sup>, CH<sup>2</sup>NH-R<sup>11</sup>, CH<sub>2</sub>CH<sub>2</sub>N[(C<sub>1</sub>-C<sub>3</sub>)-alkyl]-R<sup>12</sup>, CH<sub>2</sub>CH<sub>2</sub>NH-R<sup>13</sup>, where the radicals R<sup>7</sup> in the formula (IVa) which are different from hydrogen are preferably located in the 5-position on the phenyl ring and the radicals R<sup>8</sup> to R<sup>13</sup> are H, (C<sub>1</sub>-C<sub>6</sub>)-alkyl, (C<sub>1</sub>-C<sub>6</sub>)-haloalkyl, CHO, COO(C<sub>1</sub>-C<sub>6</sub>)-alkyl, COO(C<sub>1</sub>-C<sub>6</sub>)-haloalkyl, SO<sub>2</sub>-(C<sub>1</sub>-C<sub>6</sub>)-alkyl, SO<sub>2</sub>-(C<sub>1</sub>-C<sub>6</sub>)-haloalkyl, CO-(C<sub>1</sub>-C<sub>6</sub>)-alkyl or CO-(C<sub>1</sub>-C<sub>6</sub>)-haloalkyl,

40  $R^{6''}$  is Me, Et, <sup>n</sup>Pr, <sup>i</sup>Pr, <sup>c</sup>Pr, <sup>n</sup>Bu, <sup>i</sup>Bu, <sup>s</sup>Bu, <sup>t</sup>Bu, <sup>c</sup>Bu, in particular Me or Et,

35

$R^{7''}$  is H, Me, Et, CF<sub>3</sub>, F, Cl, Br, I, N[(C<sub>1</sub>-C<sub>3</sub>)-alkyl]-R<sup>8</sup>, NH-(C<sub>1</sub>-C<sub>3</sub>)-alkyl, CH<sub>2</sub>N[(C<sub>1</sub>-C<sub>3</sub>)-alkyl]-R<sup>10</sup>, CH<sub>2</sub>NH-R<sup>11</sup>, CH<sub>2</sub>CH<sub>2</sub>N[(C<sub>1</sub>-C<sub>3</sub>)-alkyl]-R<sup>12</sup>, CH<sub>2</sub>CH<sub>2</sub>NH-R<sup>13</sup>, where the radicals R<sup>7''</sup> in the formula (IVb) which are different from hydrogen are preferably located in the 5-position on the phenyl ring and the radicals R<sup>8</sup> and R<sup>10</sup> to R<sup>13</sup> are H, (C<sub>1</sub>-C<sub>6</sub>)-alkyl, (C<sub>1</sub>-C<sub>6</sub>)-haloalkyl, CHO, COO(C<sub>1</sub>-C<sub>6</sub>)-alkyl, COO(C<sub>1</sub>-C<sub>6</sub>)-haloalkyl, SO<sub>2</sub>-(C<sub>1</sub>-C<sub>6</sub>)-alkyl, SO<sub>2</sub>-(C<sub>1</sub>-C<sub>6</sub>)-haloalkyl, CO-(C<sub>1</sub>-C<sub>6</sub>)-alkyl or CO-(C<sub>1</sub>-C<sub>6</sub>)-haloalkyl,

5

$R^{6''''}$  is Me, Et, Pr, CH<sub>2</sub>CH<sub>2</sub>CF<sub>3</sub>, OMe, OEt, O<sup>i</sup>Pr, OCH<sub>2</sub>CH<sub>2</sub>Cl, F, Cl, COOMe, COOEt, COO<sup>n</sup>Pr, COO<sup>i</sup>Pr, CONMe<sub>2</sub>, CONEt<sub>2</sub>, SO<sub>2</sub>Me, SO<sub>2</sub>Et, SO<sub>2</sub><sup>i</sup>Pr, unsubstituted or substituted NH-(C<sub>1</sub>-C<sub>6</sub>)-alkyl-acyl, unsubstituted or substituted NH-(C<sub>3</sub>-C<sub>7</sub>)-cycloalkyl, unsubstituted or substituted (C<sub>4</sub>-C<sub>8</sub>)-cycloalkylalkyl, unsubstituted or substituted N-(C<sub>3</sub>-C<sub>7</sub>)-cycloalkyl-aryl, unsubstituted or substituted N-(C<sub>4</sub>-C<sub>8</sub>)-cycloalkylalkyl-acyl, preferably N-(C<sub>1</sub>-C<sub>6</sub>)-alkyl-CHO, N-(C<sub>1</sub>-C<sub>6</sub>)-alkyl-CO-R, N-(C<sub>1</sub>-C<sub>6</sub>)-alkyl-SO<sub>2</sub>R, NH-CHO, NH-CO-R, NHSO<sub>2</sub>R, where the radicals R are (C<sub>1</sub>-C<sub>6</sub>)-(halo)-alkyl, (C<sub>1</sub>-C<sub>6</sub>)-(halo)-alkoxy, (C<sub>1</sub>-C<sub>3</sub>)-alkoxy-(C<sub>1</sub>-C<sub>6</sub>)-alkyl, (C<sub>1</sub>-C<sub>3</sub>)-alkoxy-(C<sub>1</sub>-C<sub>6</sub>)-alkoxy or mono- and di-(C<sub>1</sub>-C<sub>6</sub>)-alkylamino,

10

15

20

$R^{7''''}$  is H, F, Cl, Me, Et, CF<sub>3</sub>, OCH<sub>3</sub>, OEt, OCH<sub>2</sub>CF<sub>3</sub>, preferably H,

25

$M^+$  is [SR<sup>18</sup>R<sup>19</sup>R<sup>20</sup>]<sup>+</sup> or [PR<sup>21</sup>R<sup>22</sup>R<sup>23</sup>R<sup>24</sup>]<sup>+</sup>, where R<sup>18</sup> to R<sup>25</sup> are identical or different from one another and are substituted or unsubstituted (C<sub>1</sub>-C<sub>30</sub>)-alkyl, substituted or unsubstituted (C<sub>1</sub>-C<sub>10</sub>)-alkyl-(hetero)aryl, substituted or unsubstituted (C<sub>3</sub>-C<sub>30</sub>)-(oligo)alkenyl, substituted or unsubstituted (C<sub>3</sub>-C<sub>10</sub>)-(oligo)alkenyl-(hetero)aryl, substituted or unsubstituted (C<sub>3</sub>-C<sub>30</sub>)-(oligo)alkynyl, substituted or unsubstituted (C<sub>3</sub>-C<sub>10</sub>)-(oligo)alkynyl-(hetero)aryl, substituted or unsubstituted (hetero)aryl, and where two radicals R<sup>18</sup>/R<sup>19</sup>, R<sup>21</sup>/R<sup>22</sup> and R<sup>23</sup>/R<sup>24</sup> together may form an unsubstituted or substituted ring,

X is Me, Et, Pr, <sup>i</sup>Pr, CF<sub>3</sub>, CCl<sub>3</sub>, OMe, OEt, O<sup>i</sup>Pr, OCHCl<sub>2</sub>, OCH<sub>2</sub>CCl<sub>3</sub>, OCH<sub>2</sub>CF<sub>3</sub>, F, Cl, Br, SMe, SEt, NHMe, NMe<sub>2</sub>, NHEt, preferably OMe, OEt, Me, Cl

5 Y is Me, Et, Pr, <sup>i</sup>Pr, CF<sub>3</sub>, CCl<sub>3</sub>, OMe, OEt, O<sup>i</sup>Pr, OCHCl<sub>2</sub>, OCH<sub>2</sub>CCl<sub>3</sub>, OCH<sub>2</sub>CF<sub>3</sub>, F, Cl, Br, SMe, SEt, NHMe, NMe<sub>2</sub>, NHEt, preferably OMe, OEt, Me, Cl

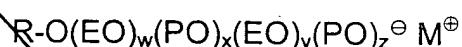
and

10 10 Z is CH or N.

15 16. The use of one or more compounds of the formula (Ia) as claimed in claim 14 or 15 as herbicidal or plant-growth-regulating agent.

17. A process for preparing a compound of the formula (Ia) as claimed in claim 14 or 15.

20 18. The use of a compound of the formula (XVIII)



(XVIII)

25 in which

w, x, y and z independently of one another are integers from 0 to 50,  
R is an unsubstituted or substituted C<sub>8</sub>-C<sub>40</sub>-hydrocarbon,

EO is an ethoxy unit,

PO is a propoxy unit and

30 M<sup>⊕</sup> is a phosphonium or sulfonium ion,

for preparing an agrochemical formulation

Amen.  
a



PCT  
WELTORGANISATION FÜR GEISTIGES EIGENTUM  
Internationales Büro  
INTERNATIONALE ANMELDUNG VERÖFFENTLICH NACH DEM VERTRAG ÜBER DIE  
INTERNATIONALE ZUSAMMENARBEIT AUF DEM GEBIET DES PATENTWESENS (PCT)

(51) Internationale Patentklassifikation <sup>7</sup> : <b>A01N 47/38, 47/34, 47/36, 25/30, C11D 1/60</b>		<b>A1</b>	(11) Internationale Veröffentlichungsnummer: <b>WO 00/44227</b>  (43) Internationales Veröffentlichungsdatum: <b>3. August 2000 (03.08.00)</b>
 (21) Internationales Aktenzeichen: <b>PCT/EP00/00469</b>  (22) Internationales Anmeldedatum: <b>22. Januar 2000 (22.01.00)</b>  (30) Prioritätsdaten: 199 03 064.2 27. Januar 1999 (27.01.99) DE 199 63 383.5 28. Dezember 1999 (28.12.99) DE  (71) Anmelder ( <i>für alle Bestimmungsstaaten ausser US</i> ): AVEN-TIS CROPSCIENCE GMBH [DE/DE]; Miraustrasse 54, D-13509 Berlin (DE).  (72) Erfinder; und (75) Erfinder/Anmelder ( <i>nur für US</i> ): SCHNABEL, Gerhard [DE/DE]; Amselweg 10, D-63820 Elsenfeld (DE). HAASE, Detlev [DE/DE]; Drosselweg 3, D-65929 Frankfurt (DE). MAIER, Thomas [DE/DE]; Kapellenstrasse 16, D-65719 Hofheim (DE). MARTINEZ DE UNA, Julio [ES/DE]; Feldbergstrasse 24, D-65835 Liederbach (DE). WÜRTZ, Jochen [DE/DE]; Grosse Hohl 3F, D-55411 Bingen am Rhein (DE).		 (81) Bestimmungsstaaten: AE, AL, AM, AU, AZ, BA, BB, BG, BR, BY, CA, CN, CR, CU, CZ, DM, EE, GD, GE, HR, HU, ID, IL, IN, IS, JP, KG, KP, KR, KZ, LC, LK, LR, LT, LV, MA, MD, MG, MK, MN, MX, NO, NZ, PL, RO, RU, SG, SI, SK, TJ, TM, TR, TT, UA, US, UZ, VN, YU, ZA, ARIPO Patent (GH, GM, KE, LS, MW, SD, SL, SZ, TZ, UG, ZW), eurasisches Patent (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), europäisches Patent (AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE), OAPI Patent (BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG).  Veröffentlicht <i>Mit internationalem Recherchenbericht. Vor Ablauf der für Änderungen der Ansprüche zugelassenen Frist; Veröffentlichung wird wiederholt falls Änderungen eintreffen.</i>	
 (54) Title: FORMULATION OF HERBICIDES AND PLANT GROWTH REGULATORS  (54) Bezeichnung: FORMULIERUNG VON HERBIZIDEN UND PFLANZENWACHSTUMSREGULATOREN  (57) Abstract  The invention relates to formulations containing a) at least one phosphonium or sulfonium salt of a sulfonylurea, wherein the phosphonium and sulfonium cation of the salt has at least one substituent that is not hydrogen, and b) conventional auxiliaries and additives.  (57) Zusammenfassung  Die vorliegende Erfindung betrifft Formulierungen, enthaltend: a) mindestens ein Phosphonium- oder Sulfoniumsalz eines Sulfonylharnstoffs, wobei das Phosphonium- und Sulfoniumkation des Salzes mindestens einen Substituenten aufweist, der von Wasserstoff verschieden ist, und b) übliche Hilfs- und Zusatzstoffe.			

# INTERNATIONAL SEARCH REPORT

International Application No
PCT/EP 00/0469

<b>A. CLASSIFICATION OF SUBJECT MATTER</b>
IPC 7 A01N47/38 A01N47/34 A01N47/36 A01N25/30 C11D1/60

According to International Patent Classification (IPC) or to both national classification and IPC

**B. FIELDS SEARCHED**

Minimum documentation searched (classification system followed by classification symbols)

IPC 7 A01N C11D

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practical, search terms used)

**C. DOCUMENTS CONSIDERED TO BE RELEVANT**

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	EP 0 378 092 A (BASF AG) 18 July 1990 (1990-07-18) page 6, line 14-16 ---	1-17
X	EP 0 469 460 A (BASF AG) 5 February 1992 (1992-02-05) page 11, line 33-35 ---	1-17
X	WO 97 40021 A (DREWES MARK WILHELM ;GESING ERNST RUDOLF F (DE); KLUTH JOACHIM (DE) 30 October 1997 (1997-10-30) page 4, line 6-10 ---	1-17
X	WO 97 32875 A (BAYER AG ;GESING ERNST RUDOLF F (DE); DREWES MARK WILHELM (DE); JA) 12 September 1997 (1997-09-12) page 7, line 1,2 ---	1-17
		-/-

Further documents are listed in the continuation of box C.

Patent family members are listed in annex.

\* Special categories of cited documents :

- "A" document defining the general state of the art which is not considered to be of particular relevance
- "E" earlier document but published on or after the international filing date
- "L" document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)
- "O" document referring to an oral disclosure, use, exhibition or other means
- "P" document published prior to the international filing date but later than the priority date claimed

"T" later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention

"X" document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone

"Y" document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art.

"&" document member of the same patent family

Date of the actual completion of the international search

7 June 2000

Date of mailing of the international search report

20.06.00

Name and mailing address of the ISA

European Patent Office, P.B. 5818 Patenttaan 2  
NL - 2280 HV Rijswijk  
Tel. (+31-70) 340-2040, Tx. 31 651 epo nl,  
Fax: (+31-70) 340-3016

Authorized officer

Klaver, J

## INTERNATIONAL SEARCH REPORT

International Application No
PCT/EP 00/00469

## C.(Continuation) DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	EP 0 052 856 A (STAUFFER CHEMICAL CO) 2 June 1982 (1982-06-02) page 12, line 19-21 page 21, line 20-22 -----	1-17
Y	DE 26 09 105 A (BASF AG) 15 September 1977 (1977-09-15) page 3, paragraph 3 page 5, line 1 -page 6, line 1 -----	18
Y	US 4 240 982 A (HARRIS ROBERT F ET AL) 23 December 1980 (1980-12-23) column 2, line 5-24 column 7, line 21,22 -----	18

**INTERNATIONAL SEARCH REPORT**

International application No.

PCT/EP00/00469

**FURTHER INFORMATION PCT/ISA/210**

The International Searching Authority found that this International Application contains several inventions or groups of inventions, as follows:

**1. Claims Nos. 1-17**

- Formulation containing (a) at least one phosphonium or sulfonium salt of a sulfonylurea, preferably of formula (Ia) according to claim 2, and (b) conventional auxiliaries and additives (claims 1-12).
- Use of said formulation as herbicidal agent or plant growth regulator (claim 13)
- Compound of formula (Ia) according to claim 3, as well as its use as herbicidal agent or plant growth regulator or method for its production (claims 14-17).

**2. Claim No. 18**

Use of an alkylalkoxylate compound of formula (XVIII) for producing an agrochemical formulation (claim 18).

**INTERNATIONAL SEARCH REPORT**

Information on patent family members

International Application No

PCT/EP 00/00469

Patent document cited in search report	Publication date	Patent family member(s)		Publication date
EP 0378092 A	18-07-1990	DE 3900472 A CA 2005595 A DE 59005654 D HU 52763 A, B JP 2225472 A JP 2834247 B		12-07-1990 10-07-1990 16-06-1994 28-08-1990 07-09-1990 09-12-1998
EP 0469460 A	05-02-1992	DE 4024754 A AT 129239 T CA 2048051 A DE 59106710 D ES 2077739 T JP 3001684 B JP 4243869 A US 5188657 A		06-02-1992 15-11-1995 04-02-1992 23-11-1995 01-12-1995 24-01-2000 31-08-1992 23-02-1993
WO 9740021 A	30-10-1997	DE 19616362 A AU 2569597 A		30-10-1997 12-11-1997
WO 9732875 A	12-09-1997	DE 19608831 A AU 717425 B AU 2092797 A BR 9708009 A CA 2248290 A CN 1218469 A EP 0885216 A		18-09-1997 23-03-2000 22-09-1997 27-07-1999 12-09-1997 02-06-1999 23-12-1998
EP 0052856 A	02-06-1982	AU 7759781 A BR 8107511 A DD 202368 A DK 506281 A ES 507277 D ES 8304933 A ES 516548 D ES 8401021 A FI 813670 A GR 71993 A JP 57118552 A NO 813906 A PL 233897 A PT 74006 A, B TR 21293 A US 4931580 A ZA 8108019 A JP 58083668 A		27-05-1982 10-08-1982 14-09-1983 20-05-1982 16-03-1983 16-06-1983 01-12-1983 16-02-1984 20-05-1982 26-08-1983 23-07-1982 21-05-1982 16-08-1982 01-12-1981 22-03-1984 05-06-1990 29-12-1982 19-05-1983
DE 2609105 A	15-09-1977	BE 852173 A FR 2342966 A GB 1573215 A IL 51374 A JP 52106807 A		07-09-1977 30-09-1977 20-08-1980 31-12-1980 07-09-1977
US 4240982 A	23-12-1980	US 4093663 A US 4260826 A US 4175196 A		06-06-1978 07-04-1981 20-11-1979

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 RING(S) ARE ISOLATED OR EMBEDDED  
 NUMBER OF NODES IS 5

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VAR G1=2/3  
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 CHARGE IS \*+ AT 3  
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 DEFAULT ECLEVEL IS LIMITED

GRAPH ATTRIBUTES:  
 RING(S) ARE ISOLATED OR EMBEDDED  
 NUMBER OF NODES IS 3

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 L26 5 SEA FILE=HCAPLUS ABB=ON PLU=ON L25

=> d ibib abs hitstr 126 1-5

L26 ANSWER 1 OF 5 HCAPLUS COPYRIGHT 2003 ACS  
 ACCESSION NUMBER: 2000:534936 HCAPLUS  
 DOCUMENT NUMBER: 133:131179  
 TITLE: Formulation of sulfonylurea herbicides and plant  
 growth regulators  
 INVENTOR(S): Schnabel, Gerhard; Haase, Detlev; Maier, Thomas;  
 Martinez de Una, Julio; Wurtz, Jochen  
 PATENT ASSIGNEE(S): Aventis Cropscience G.m.b.H., Germany; Martinez De  
 Una, Julio  
 SOURCE: PCT Int. Appl., 62 pp.  
 CODEN: PIXXD2  
 DOCUMENT TYPE: Patent  
 LANGUAGE: German  
 FAMILY ACC. NUM. COUNT: 2

## PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2000044227	A1	20000803	WO 2000-EP469	20000122
W: AE, AL, AM, AU, AZ, BA, BB, BG, BR, BY, CA, CN, CR, CU, CZ, DM, EE, GD, GE, HR, HU, ID, IL, IN, IS, JP, KG, KP, KR, KZ, LC, LK, LR, LT, LV, MA, MD, MG, MK, MN, MX, NO, NZ, PL, RO, RU, SG, SI, SK, TJ, TM, TR, TT, UA, US, UZ, VN, YU, ZA, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM				
RW: GH, GM, KE, LS, MW, SD, SL, SZ, TZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG				
DE 19903064	A1	20001005	DE 1999-19903064	19990127
DE 19963383	A1	20010705	DE 1999-19963383	19991228
CA 2360624	AA	20000803	CA 2000-2360624	20000122
BR 2000007772	A	20011030	BR 2000-7772	20000122
EP 1158858	A1	20011205	EP 2000-906217	20000122
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO				
JP 2002535345	T2	20021022	JP 2000-595540	20000122
PRIORITY APPLN. INFO.:			DE 1999-19903064 A	19990127
			DE 1999-19963383 A	19991228
			WO 2000-EP469 W	20000122

OTHER SOURCE(S): MARPAT 133:131179

AB The invention relates to formulations contg. (a) at least one phosphonium or sulfonyl salt of a sulfonylurea, wherein the phosphonium and sulfonyl cation of the salt has at least one substituent that is not hydrogen, and (b) conventional auxiliaries and additives.

IT 286842-51-1 286842-52-2 286842-54-4  
 RL: AGR (Agricultural use); BIOL (Biological study); USES (Uses)  
 (herbicidal formulation of)

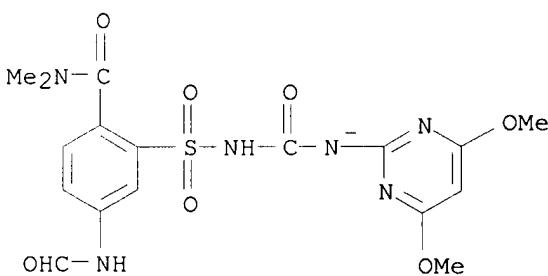
RN 286842-51-1 HCAPLUS

CN Sulfonium, triphenyl-, salt with 2-[[[[4,6-dimethoxy-2-pyrimidinyl]amino]carbonyl]amino]sulfonyl]-4-(formylamino)-N,N-dimethylbenzamide (1:1) (9CI) (CA INDEX NAME)

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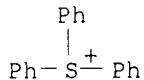
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CMF C17 H19 N6 O7 S



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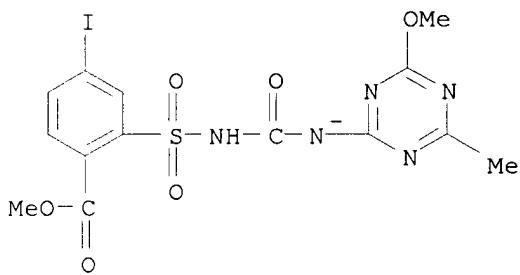
CRN 18393-55-0  
 CMF C18 H15 S



RN 286842-52-2 HCAPLUS  
 CN Sulfonium, triphenyl-, salt with methyl 2-[[[[(4,6-dimethoxy-1,3,5-triazin-2-yl)amino]carbonyl]amino]sulfonyl]-4-iodobenzoate (1:1) (9CI) (CA INDEX NAME)

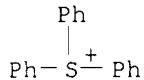
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CRN 286838-57-1  
 CMF C14 H13 I N5 O6 S



CM 2

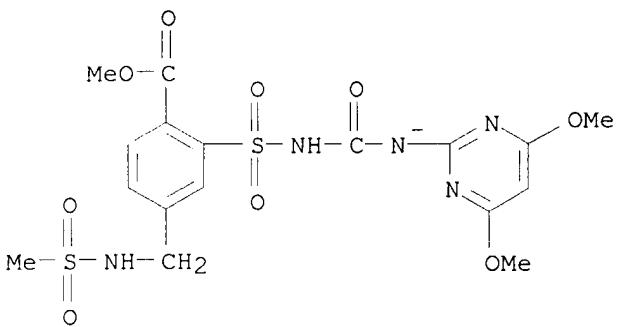
CRN 18393-55-0  
 CMF C18 H15 S



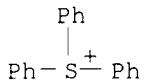
RN 286842-54-4 HCAPLUS  
 CN Sulfonium, triphenyl-, salt with methyl 2-[[[[(4,6-dimethoxy-2-pyrimidinyl)amino]carbonyl]amino]sulfonyl]-4-[(methylsulfonyl)amino]methylbenzoate (1:1) (9CI) (CA INDEX NAME)

CM 1

CRN 286842-53-3  
 CMF C17 H20 N5 O9 S2



CM 2

CRN 18393-55-0  
CMF C18 H15 S

REFERENCE COUNT: 7 THERE ARE 7 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L26 ANSWER 2 OF 5 HCPLUS COPYRIGHT 2003 ACS  
 ACCESSION NUMBER: 1996:751875 HCPLUS  
 DOCUMENT NUMBER: 126:15866  
 TITLE: Glyphosate-comprising synergistic herbicidal mixtures  
 INVENTOR(S): Lichtner, Francis Thomas, Jr.  
 PATENT ASSIGNEE(S): E.I. Du Pont De Nemours and Company, USA; Lichtner,  
 Francis Thomas, Jr.  
 SOURCE: PCT Int. Appl., 17 pp.  
 DOCUMENT TYPE: Patent  
 LANGUAGE: English  
 FAMILY ACC. NUM. COUNT: 1  
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 9634528	A1	19961107	WO 1996-US5951	19960429
W: AL, AU, BB, BG, BR, CA, CN, CZ, EE, GE, HU, IS, JP, KP, KR, LK, LR, LT, LV, MG, MK, MN, MX, NO, NZ, PL, RO, SG, SI, SK, TR, TT, UA, US, UZ, VN, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM RW: KE, LS, MW, SD, SZ, UG, AT, BE, CH, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, ML, MR, NE, SN, TD, TG				
FR 2733668	A1	19961108	FR 1995-5431	19950505
AU 9657177	A1	19961121	AU 1996-57177	19960429
EP 823837	A1	19980218	EP 1996-915388	19960429
EP 823837	B1	20010620		
R: DE, ES, FR, GB				
ES 2159028	T3	20010916	ES 1996-915388	19960429

US 5928995 A 19990727 US 1997-945865 19971103  
 PRIORITY APPLN. INFO.: FR 1995-5431 A 19950505  
                           WO 1996-US5951 W 19960429

AB This invention relates to herbicidal mixts. of triflusulfuron Me and glyphosate. The prefered crop is sugar beet, contg. gene(s) that confer tolerance to glyphosate.

IT 184355-14-4

RL: AGR (Agricultural use); BIOL (Biological study); USES (Uses)  
 (synergistic herbicidal mixt.)

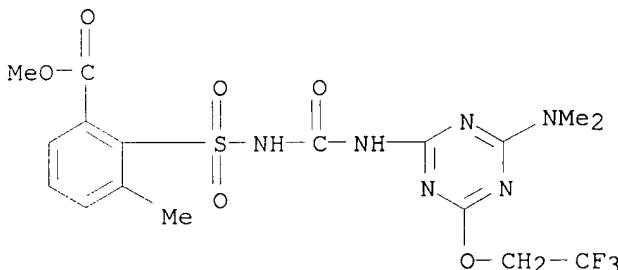
RN 184355-14-4 HCAPLUS

CN Glycine, N-(phosphonomethyl)-, ion(1-), trimethylsulfonium, mixt. with methyl 2-[[[[[4-(dimethylamino)-6-(2,2,2-trifluoroethoxy)-1,3,5-triazin-2-yl]amino]carbonyl]amino]sulfonyl]-3-methylbenzoate (9CI) (CA INDEX NAME)

CM 1

CRN 126535-15-7

CMF C17 H19 F3 N6 O6 S



CM 2

CRN 81591-81-3

CMF C3 H9 S . C3 H7 N O5 P

CM 3

CRN 81591-80-2

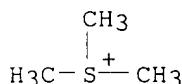
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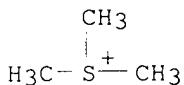


CM 4

CRN 676-84-6

CMF C3 H9 S





L26 ANSWER 3 OF 5 HCPLUS COPYRIGHT 2003 ACS  
 ACCESSION NUMBER: 1994:127796 HCPLUS  
 DOCUMENT NUMBER: 120:127796  
 TITLE: Herbicide compositions containing magnesium salts.  
 INVENTOR(S): Yoshii, Hiroshi; Maeda, Masaru; Kikukawa, Koji  
 PATENT ASSIGNEE(S): Ishihara Sangyo Kaisha, Japan  
 SOURCE: Jpn. Kokai Tokkyo Koho, 8 pp.  
 CODEN: JKXXAF  
 DOCUMENT TYPE: Patent  
 LANGUAGE: Japanese  
 FAMILY ACC. NUM. COUNT: 1  
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 05271021	A2	19931019	JP 1992-361995	19921225
JP 3253392	B2	20020204		

PRIORITY APPN. INFO.: JP 1991-361431 A1 19911227  
 AB Herbicide compns. contain 1-(4,6-dimethoxypyrimidin-2-yl)-3-(3-trifluoromethyl-2-pyridylsulfonyl)urea (I) or its salts and homoalanin-4-ylmethylphosphinic acid (II), [2-amino-4-(hydroxymethylphoshinoyl)butyryl]alanylalanine and/or N-(phosphonomethyl)glycine, or their salts and inorg. Mg salt stabilizers. I (95% purity) 5.42, DL-II (84.6% purity) 54.1, Newkalgen EX 70 (Na dioctyl sulfosuccinate-Na benzoate mixt.) 20.0, MgCO<sub>3</sub> 20.0, and Glauber's salt 0.48 wt. part were mixed to prep. a wettable powder, which was dild. with H<sub>2</sub>O and stirred at 25-30.degree. for 24 h to result in 3% decomn. of I, vs. 57%, without Mg salt.

IT 141563-83-9

RL: BIOL (Biological study)  
 (herbicides contg. magnesium salts and)

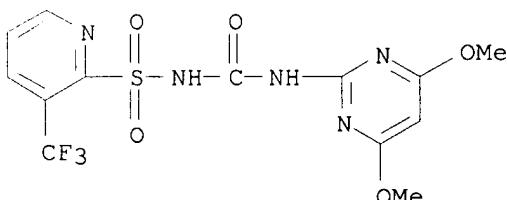
RN 141563-83-9 HCPLUS

CN Glycine, N-(phosphonomethyl)-, ion(1-), trimethylsulfonium, mixt. with N-[(4,6-dimethoxy-2-pyrimidinyl)amino]carbonyl]-3-(trifluoromethyl)-2-pyridinesulfonamide (9CI) (CA INDEX NAME)

CM 1

CRN 104040-78-0

CMF C13 H12 F3 N5 O5 S



CM 2

CRN 81591-81-3  
 CMF C3 H9 S . C3 H7 N O5 P

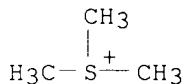
CM 3

CRN 81591-80-2  
 CMF C3 H7 N O5 P



CM 4

CRN 676-84-6  
 CMF C3 H9 S



L26 ANSWER 4 OF 5 HCPLUS COPYRIGHT 2003 ACS  
 ACCESSION NUMBER: 1992:250515 HCPLUS  
 DOCUMENT NUMBER: 116:250515  
 TITLE: Synergistic herbicidal compositions comprising a pyridylsulfonylurea derivative  
 INVENTOR(S): Sakashita, Nobuyuki; Yoshii, Hiroshi; Yoshida, Tsunezo; Honzawa, Shooichi; Kikugawa, Hiroshi  
 PATENT ASSIGNEE(S): Ishihara Sangyo Kaisha, Ltd., Japan  
 SOURCE: Eur. Pat. Appl., 12 pp.  
 CODEN: EPXXDW  
 DOCUMENT TYPE: Patent  
 LANGUAGE: English  
 FAMILY ACC. NUM. COUNT: 1  
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
EP 475392	A2	19920318	EP 1991-115391	19910911
EP 475392	A3	19921014		
EP 475392	B1	19960320		
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE				
ZA 9106986	A	19920624	ZA 1991-6986	19910903
AU 9183706	A1	19920319	AU 1991-83706	19910906
AU 637717	B2	19930603		
JP 05070313	A2	19930323	JP 1991-308558	19910911
JP 2901794	B2	19990607		
BE 1005202	A3	19930525	BE 1991-845	19910911
AT 135528	E	19960415	AT 1991-115391	19910911
ES 2084741	T3	19960516	ES 1991-115391	19910911

HU 58472	A2	19920330	HU 1991-2938	19910912
HU 209758	B	19941028		
RU 2035143	C1	19950520	RU 1991-5001693	19910912
IL 99462	A1	19960912	IL 1991-99462	19910912
FR 2666723	A1	19920320	FR 1991-11348	19910913
FR 2666723	B1	19971212		
CN 1059828	A	19920401	CN 1991-109054	19910913
CN 1031973	B	19960612		
BR 9103954	A	19920526	BR 1991-3954	19910913
RO 109419	B1	19950228	RO 1991-148389	19910913
LV 10156	B	19950820	LV 1992-596	19921230
LT 3179	B	19950227	LT 1993-301	19930127
US 5434123	A	19950718	US 1993-161458	19931206
PRIORITY APPLN. INFO.:				
		JP 1990-243252	A	19900913
		US 1991-757052	B2	19910909
		US 1992-923529	B1	19920803

AB Synergistic herbicidal compns. comprise 1-(4,6-dimethoxypyrimidin-2-yl)-3-(3-trifluoromethyl-2-pyridylsulfonyl)urea (I) and glyphosate, diquat, and/or paraquat. A mixt. of 1 g I and 5 g glyphosphate isopropylammonium salt/urea, applied postemergence, almost totally controlled Digitaria sanguinalis in pot expts., whereas the components by themselves were less effective.

IT **141563-83-9**

RL: AGR (Agricultural use); BAC (Biological activity or effector, except adverse); BSU (Biological study, unclassified); BIOL (Biological study); USES (Uses)

(as herbicide, synergistic)

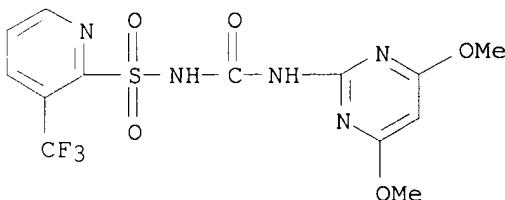
RN 141563-83-9 HCPLUS

CN Glycine, N-(phosphonomethyl)-, ion(1-), trimethylsulfonium, mixt. with N-[(4,6-dimethoxy-2-pyrimidinyl)amino]carbonyl]-3-(trifluoromethyl)-2-pyridinesulfonamide (9CI) (CA INDEX NAME)

CM 1

CRN 104040-78-0

CMF C13 H12 F3 N5 O5 S



CM 2

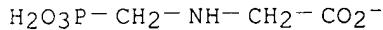
CRN 81591-81-3

CMF C3 H9 S . C3 H7 N O5 P

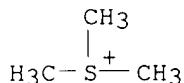
CM 3

CRN 81591-80-2

CMF C3 H7 N O5 P



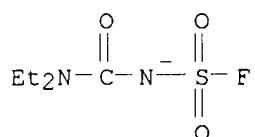
CM 4

CRN 676-84-6  
CMF C3 H9 S

L26 ANSWER 5 OF 5 HCPLUS COPYRIGHT 2003 ACS  
 ACCESSION NUMBER: 1968:49011 HCPLUS  
 DOCUMENT NUMBER: 68:49011  
 TITLE: Sulfur-nitrogen compounds. II. Preparation and investigation of fluorosulfuryl compounds  
 AUTHOR(S): Roesky, Herbert W.; Hoff, Alfred  
 CORPORATE SOURCE: Univ. Goettingen, Goettingen, Fed. Rep. Ger.  
 SOURCE: Chemische Berichte (1968), 101(1), 162-73  
 CODEN: CHBEAM; ISSN: 0009-2940  
 DOCUMENT TYPE: Journal  
 LANGUAGE: German  
 AB FSO<sub>2</sub>NCO (I) reacted with H<sub>2</sub>O, MeOH, Et<sub>2</sub>NH, and PhNH<sub>2</sub> to give (FSO<sub>2</sub>NH)<sub>2</sub>CO, FSO<sub>2</sub>NHCO<sub>2</sub>Me, FSO<sub>2</sub>NHCONEt<sub>2</sub>, and FSO<sub>2</sub>NHCONHPh, resp. The compds. gave cryst. salts with alkali, alk. earth, and quaternary org. cations. I reacted with SF<sub>4</sub> to give FSO<sub>2</sub>N:SF<sub>2</sub> and with Me<sub>2</sub>SO to give FSO<sub>2</sub>N:SMe<sub>2</sub>. Hexamethyldisilazane reacted with I to give Me<sub>3</sub>SiNCO. The reaction of I with N,N'-bis(trimethylsilyl)carbodiimide yielded 1:1 adduct. (Cl<sub>3</sub>P:N)2SO<sub>2</sub> treated with FSO<sub>3</sub>H yielded FSO<sub>2</sub>NHSO<sub>2</sub>NHSO<sub>2</sub>F and FSO<sub>2</sub>NHSO<sub>2</sub>F. The former was isolated as 2[Ph<sub>4</sub>P]<sup>+</sup>(FSO<sub>2</sub>N)<sub>2</sub>SO<sub>2</sub><sup>-</sup>. The physico-chem. properties and the ir and N.M.R. spectra of the compds. are given.

IT 19445-03-5P  
 RL: SPN (Synthetic preparation); PREP (Preparation)  
 (prepn. of)  
 RN 19445-03-5 HCPLUS  
 CN Phosphonium, tetraphenyl-, salt with (diethylcarbamoyl)sulfamoyl fluoride (1:1) (8CI) (CA INDEX NAME)

CM 1

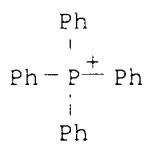
CRN 45012-38-2  
CMF C5 H10 F N2 O3 S

Clardy 09/890,086

June 10, 2003

CM 2

CRN 18198-39-5  
CMF C24 H2O P



# iodosulfuron

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**STATUS:** ISO 1750 (published)

**IUPAC:** 4-ido-2-[3-(4-methoxy-6-methyl-1,3,5-triazin-2-yl)ureidosulfonyl]benzoic acid

**CAS:** 4-ido-2-[[[(4-methoxy-6-methyl-1,3,5-triazin-2-yl)amino]carbonyl]amino]sulfonyl]benzoic acid

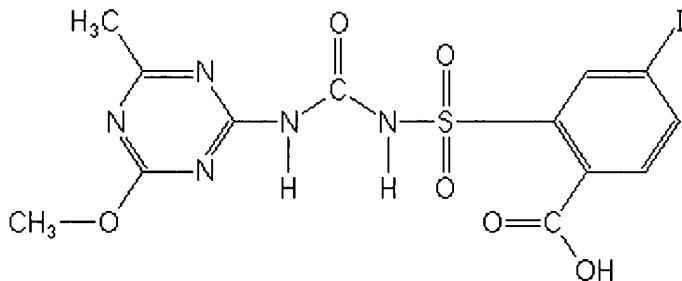
**REG. NO.:** 185119-76-0

**FORMULA:** C<sub>13</sub>H<sub>12</sub>IN<sub>5</sub>O<sub>6</sub>S

**ACTIVITY:** herbicides (triazinylsulfonylurea herbicides)

**NOTES:** This compound is normally used as a salt or an ester, the identity of which should be stated for example iodosulfuron-methyl-sodium [144550-36-7].

**STRUCTURE:**



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